

Integrated Waveguide Optical Gyroscope, Phase I

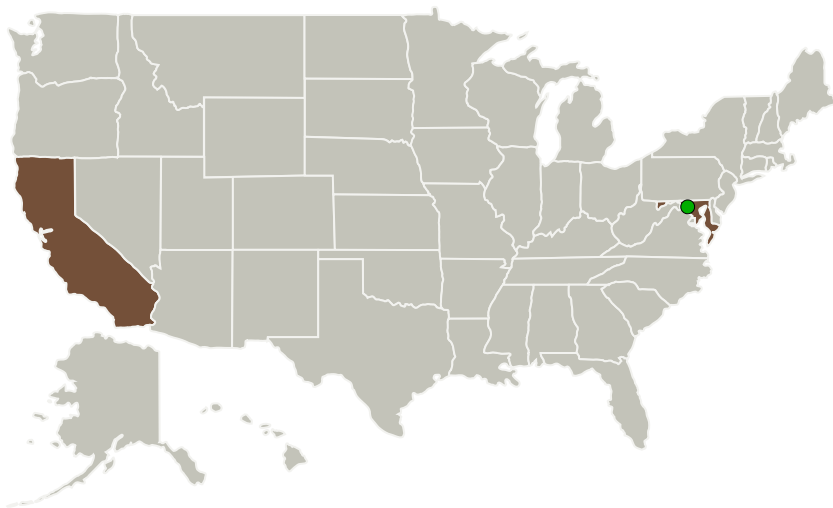
Completed Technology Project (2017 - 2017)



Project Introduction

We propose a radical new approach for to the design and fabrication of an integrated Waveguide Optical Gyroscope (iWOG) that enables the development of very small IMU with near tactical grade performance, higher reliability, high level of robustness and lower cost. Modeling predicts that the iWOG will have up to two orders-of-magnitude improvement in bias stability over temperature (for the same volume) when compared to the highest performance commercially available MEMs gyroscope. The iWOG is also inherently radiation hardened and is the ideal technology for future cubesat applications at NASA.

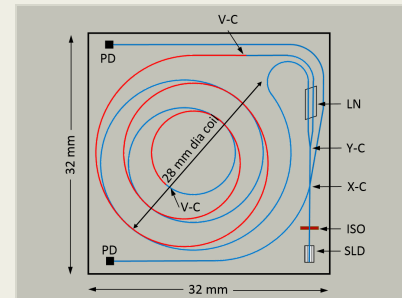
Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Gener8, Inc.	Lead Organization	Industry	Sunnyvale, California
 Goddard Space Flight Center(GSFC)	Supporting Organization	NASA Center	Greenbelt, Maryland

Primary U.S. Work Locations

California	Maryland
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Integrated Waveguide Optical Gyroscope, Phase I Briefing Chart Image

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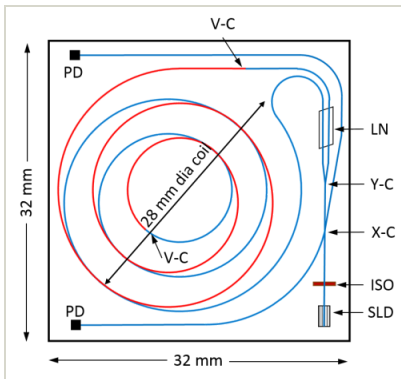
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Images



Briefing Chart Image

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(<https://techport.nasa.gov/image/131889>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Gener8, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

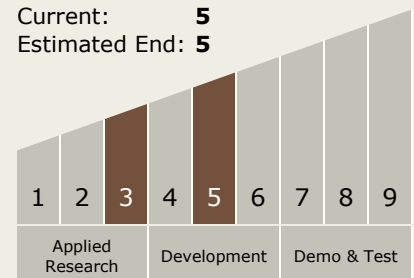
William Bischel

Technology Maturity (TRL)

Start: 3

Current: 5

Estimated End: 5



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Technology Areas

Primary:

- TX17 Guidance, Navigation, and Control (GN&C)
 - └ TX17.2 Navigation Technologies
 - └ TX17.2.3 Navigation Sensors